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FIG.1A

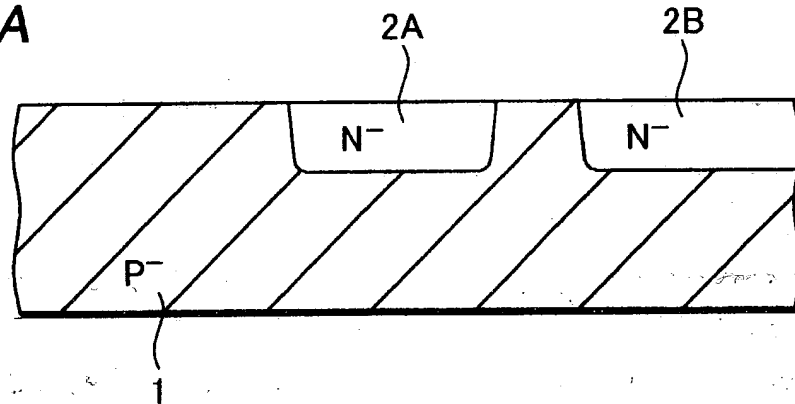


FIG.1B

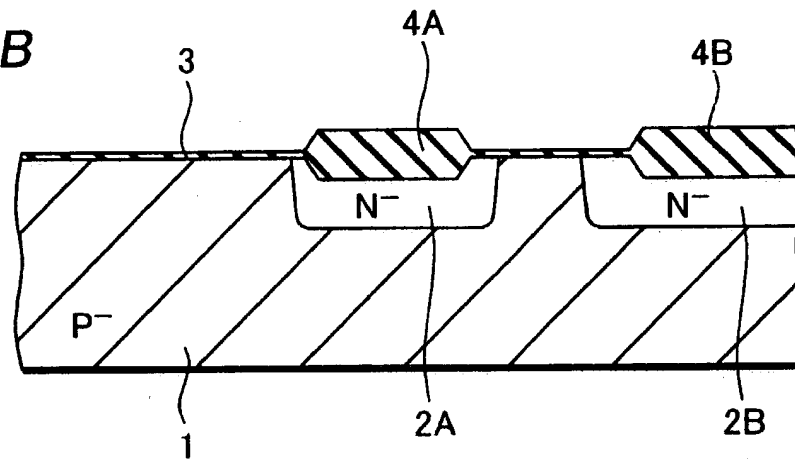


FIG.1C

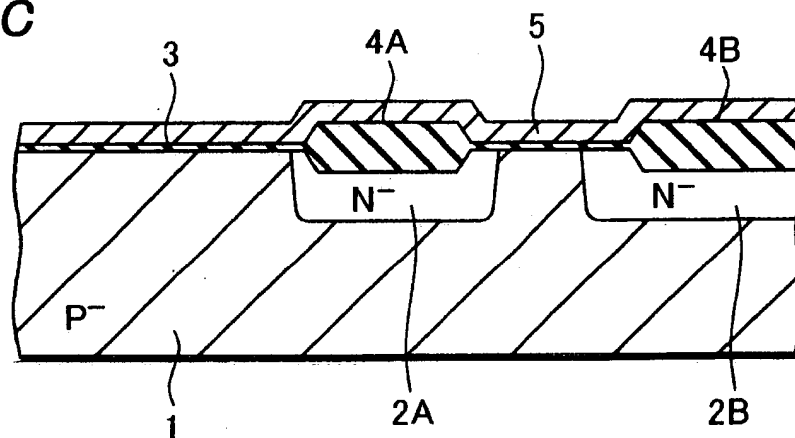


Fig. 1C is a cross-sectional view of a semiconductor device. It shows a substrate with a P- region and N- regions. A top layer with N+ regions is formed on the substrate. Arrows indicate light incident on the top surface. Labels include 1, 2A, 2B, 8, 9, 10, 11, and 12.

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FIG.3A

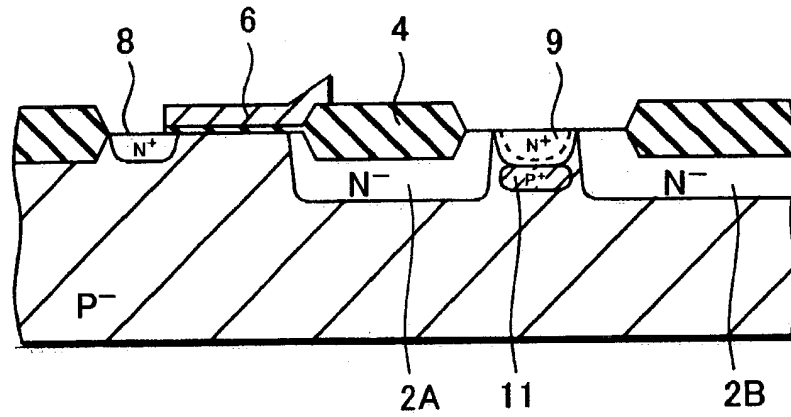
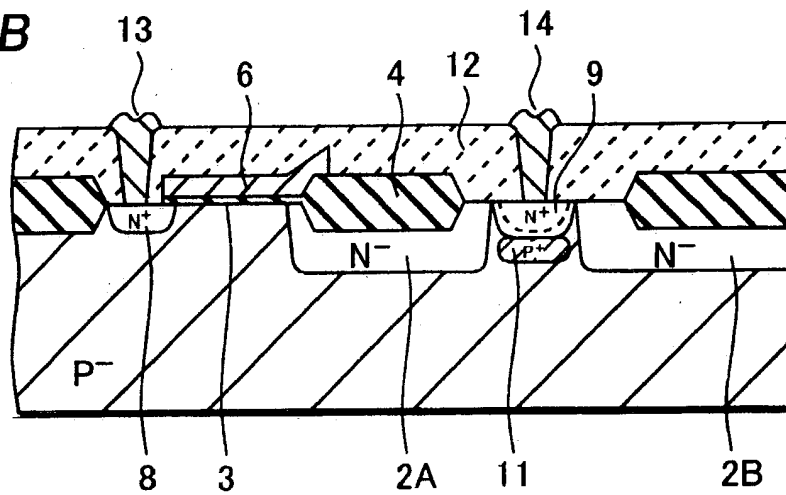


FIG.3B



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FIG.4

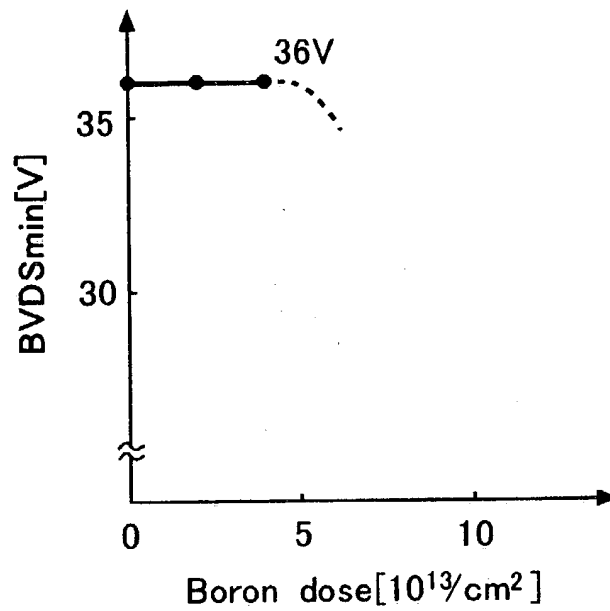
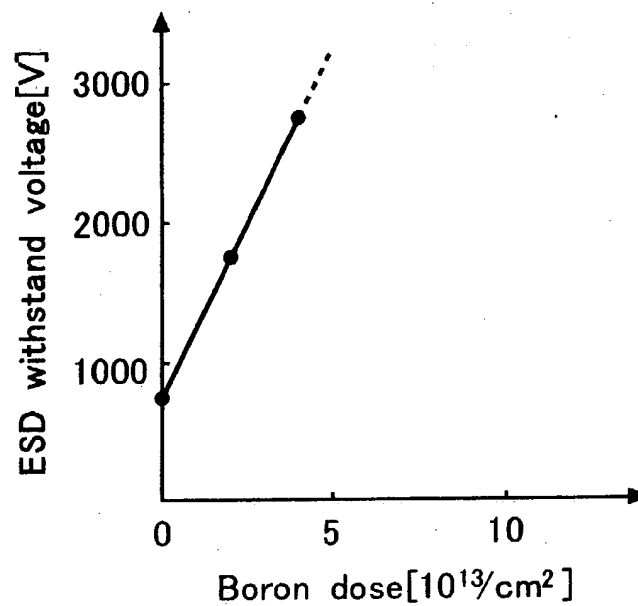


FIG.5



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FIG.6A

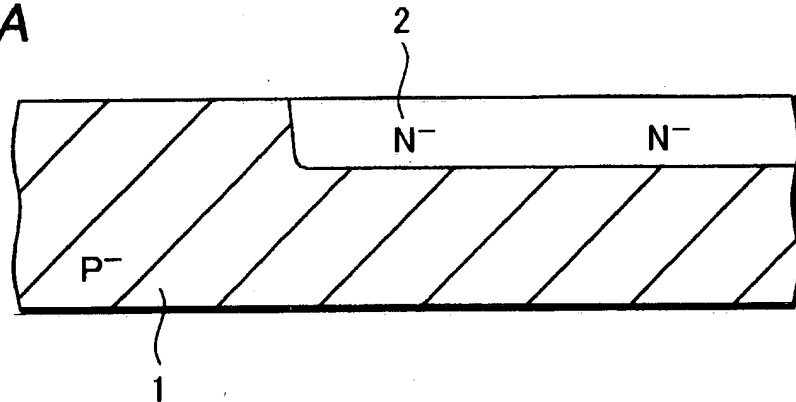


FIG.6B

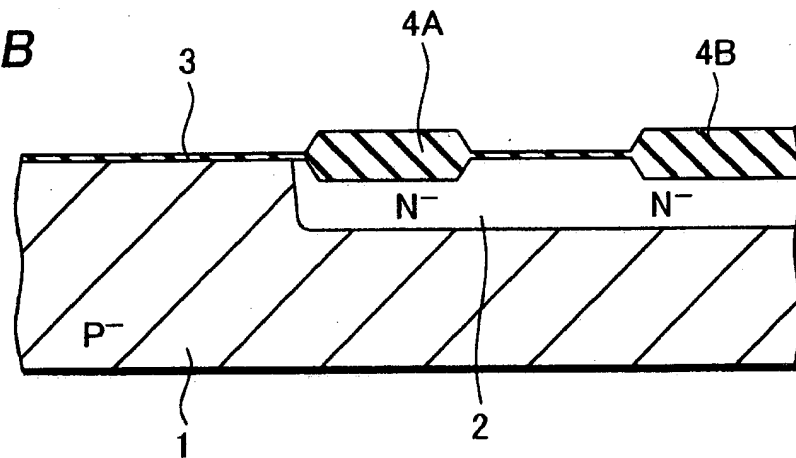
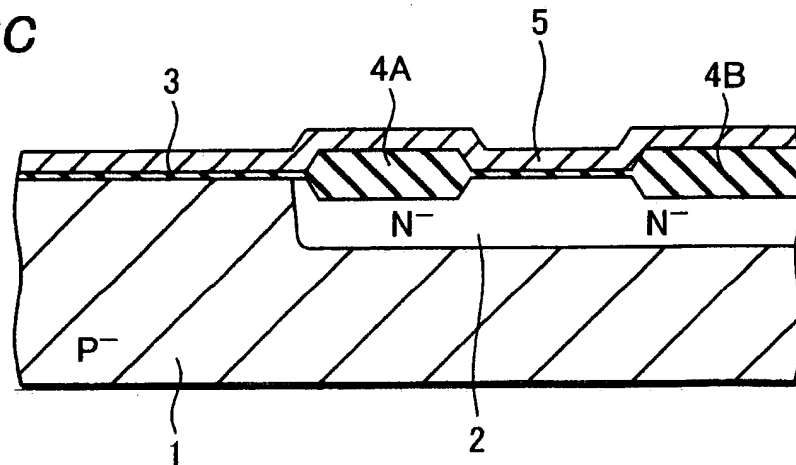


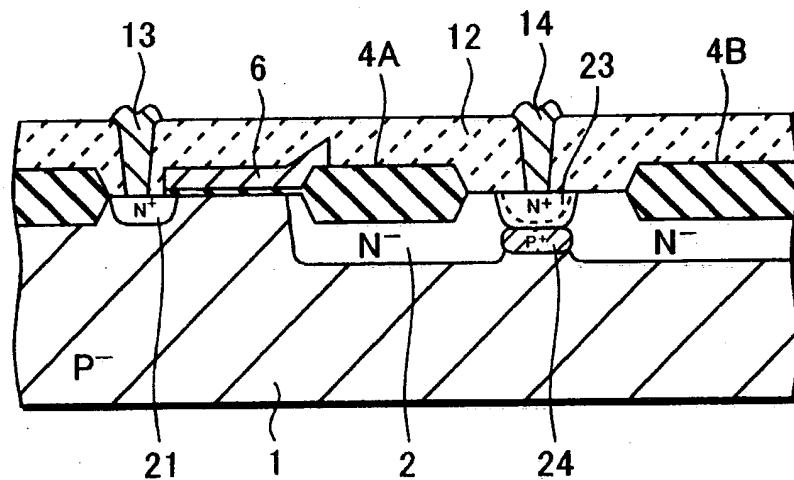
FIG.6C



[illegible]

Fig. 1C is a cross-sectional view of a semiconductor device. It shows a P- substrate (1) with N+ regions (21, 23, 24) and N- regions (2, 4A, 4B). A gate structure (6) is shown over the N+ regions.

FIG.8



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FIG.9A

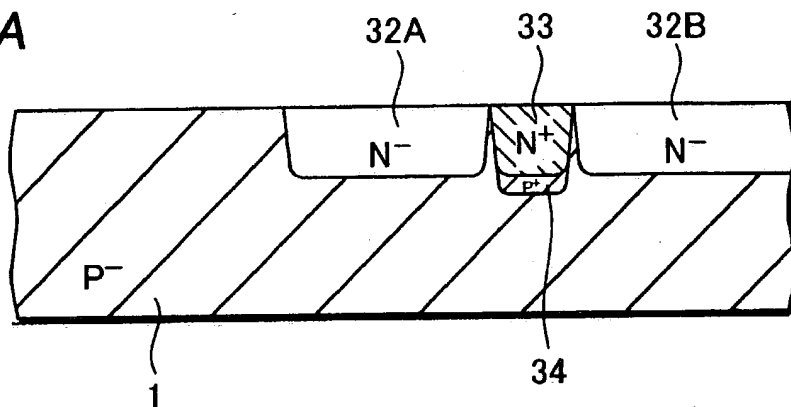


FIG.9B

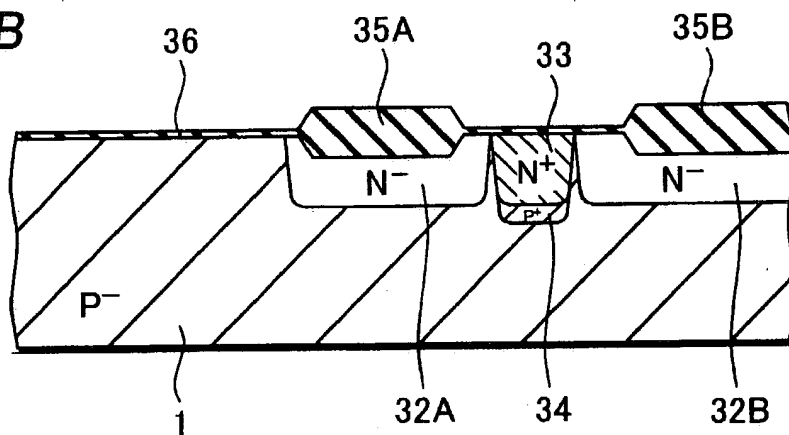


FIG.9C

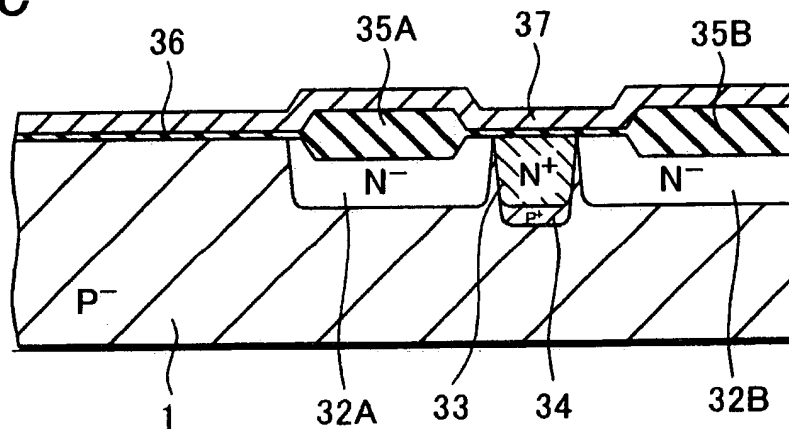


Figure 10A is a cross-sectional view of a semiconductor device. It shows a substrate 1 with a P⁻ region. On the surface, there are several regions: 32A (N⁻), 34 (N⁺), and 32B (N⁻). A central region 33 is also shown, which is N⁺ and contains a P⁺ region. A layer 38 is on top of 32A, and a layer 35A is on top of 32B. A layer 35B is on top of 32B. A layer 33 is on top of 34.

Figure 10B is a cross-sectional view of a semiconductor device. It shows a substrate 1 with a P⁻ region. A layer 38 is formed on the surface. A region 40 is labeled N⁺. A region 32A is labeled N⁻. A region 33 is labeled N⁺. A region 34 is labeled P⁺. A region 32B is labeled N⁻. A region 39 is labeled N⁺. A region 41 is labeled N⁺. Arrows indicate the direction of light or particles incident on the device. Labels 35A and 35B are also present.

[illegible]

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FIG.11

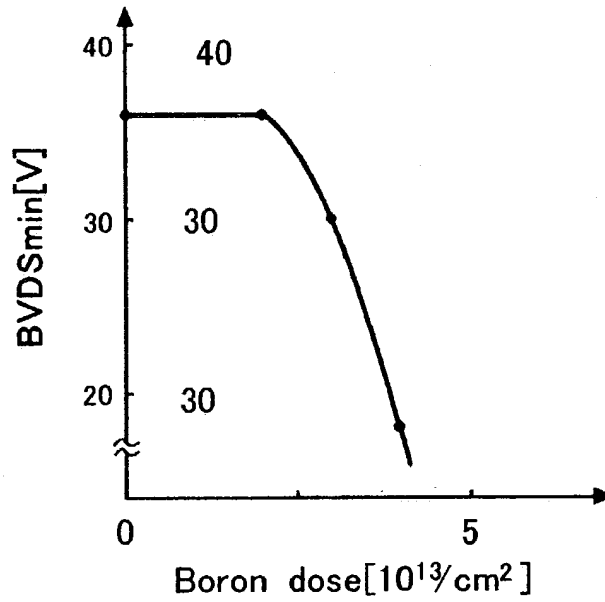
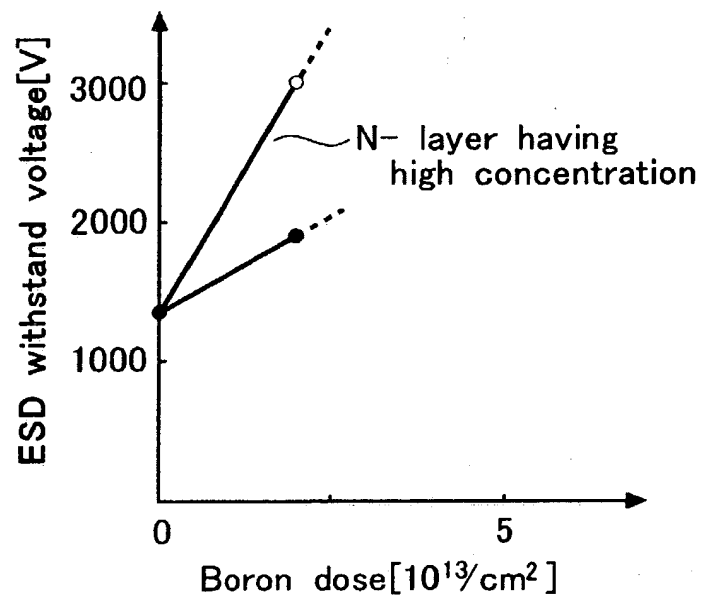


FIG.12



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FIG.13

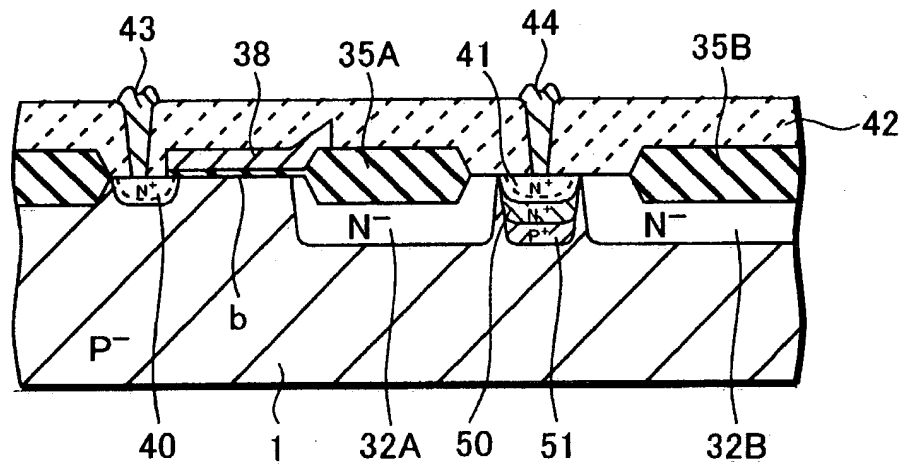


FIG.14

